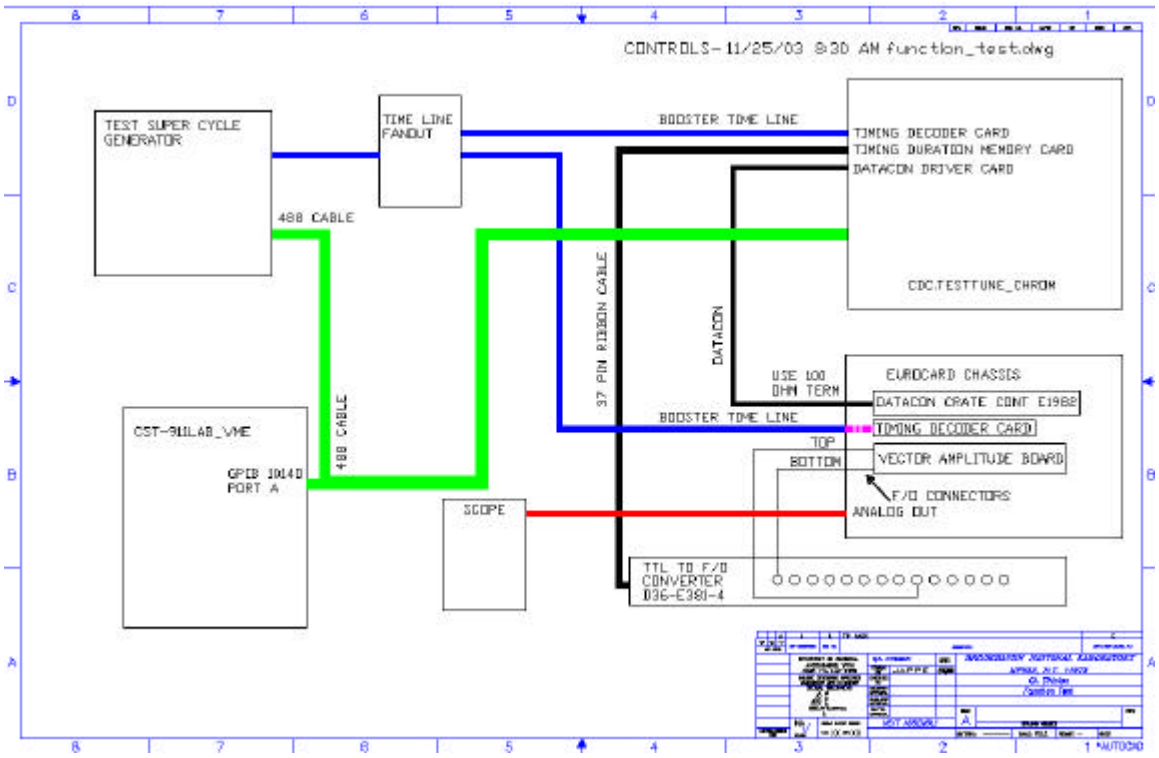
Setting up the
CDC.TEST.TUNE_CHROM,
alias "Func_gen_tester" and "vector_funcgen"
for testing the
Vector Amplitude Boards
And
Timing Module Duration Memory Boards

System tests Bipolar/Unipolar Vector Amplitude Eurocard boards (D36-E223)
It also can test other types of boards that are in the two chassis.

Setup:
Check to see if all the boards are installed in the two chassis:
Multibus chassis:
4 Slot: Commutations section
CM4/2
Intel 186/03A cpu card
Micro Memory Model MM7200 512K

9 Slot: Control section
Intel 186/03A cpu card
Multibus Datacon Master Interface D32-E116-5
Multibus Datacon 2 Quad Driver D32-E196-5
Timing module duration memory D36-E228 note make sure that the correct address PLD is installed into U17 (PLD116)
Booster Multibus decoder/receiver D36-E362-5 rev E

Eurocard chassis:
Datacon crate controller D09-E1982-5
Bipolar/Unipolar Vector Amplitude board (D36-E223)
Eurocard "VME" Timing System Decoder board (D36-E451-4)
Interface board has power supply test points, address switch settings and a crystal with some circuitry.



Connect system as per block diagram
Turn on the CDC.TEST.TUNE_CHROM chassis and the Eurocard chassis below it and check to see if the F/O converter chassis is on.
See if the test SC generator chassis is connected and on.

Login to a Xterm and start StartUp then start pet and look up "Controllers", "Booster", "Power_supplies" and click on Func_gen_tester. You should see snowflakes not "C"s

Go to StartUp and start Configure go to "Reports", "Controller list", choose "CST.911LAB.VME" check to see if CDC.SC.TEST.GEN and CDC.TEST.TUNE_CHROM is on the list of controllers, if not load them from Configure.
Check to see if CDC.SC.TEST.GEN is running, go to Pet and click on Controllers, MCR then "TestSCGenerator" You should see snowflakes not "C"s
Go to StartUp and start Superman. Make sure you are set to the "Test SCG" under the menu option "Diagnostics" and click on "Choose Scg" and pick the Test Scg in the popup window. Set up the users you wish to test. You need to pick your events from menu option "Table" then "Edit" which will bring up a pop up window which you may add delete or edit timing events. You need a user ex: BU1 first and a BPP a BT0 later in time give yourself enough time between the BT0 and a BGE at the end of the cycle to give your function enough time.
You may set up SuperMan for up to all four users but put the BGE at the end. You may try to open a file I have saved *test2* under library archives. When you are finished setting up click on "Load Make Live" button, click on OK for Load table popup, then enter a name and hit OK.

Go back to StartUp and start FunctionEditor.
Under Select a process click on "Test" then under Select a group pick vector funcgen and click OK.
Under "Setup" click "Control Mode" and click on "Engineering Mode" then under "Setup" again click on "PPM user" and pick whatever user you set up.
Go to "File" and open "Library" "and from run" pick rhic_pp_fy03" which you will see a number of functions we have made up.
Then on the menu on the right side of the FuncEdit program load the function and then do a readback. On the popup pick TEST.BIPOLAR_BUF/TEST.TUNE_BUF_TIM.
When it gets finished it should highlight the function in red.
The FuncEdit program compresses the function and you can open it up by taking the mouse and drawing a box around the area of the function you wish to see.
Clear the readback
Go to the pet page for the Func_gen_tester opened earlier. Go to "Page" then set "PPM user" " and pick whatever user to wish to send the function to.
Find on the line for TEST.TUNE_CHROM.DO all the way on the right on S13 thru S16 you should see the users that you set up in "SuperMan" as either or any of UR1,UR2,UR3,UR4.
Find the line TEST.TUNE_FG_CNTL and to the right there are two "REP" (means replace) the first one on the left click on it and let go of the mouse on the REP popup to activate it.
Go to the FuncEdit program and do another readback except this time use the other readback option TEST.BIPOLAR_BUF/TEST.TUNE_TBLE_TIM again you should see the function highlighted in red. And on a scope you should see the function coming out of the analog output connector on the eurocard chassis.

Jumper Lists:

Vector Amplitude jumpers (D36-E221)
Unipolar E4-E7, E5-E6, E10-E11, E11-E12
Bipolar E5-E8, E9-E15, E10-E11, E11-E12

CM4/2
E14 TO E15
E30 TO E32
E12 TO E18
E13 TO E16
E17 TO E23
E19 TO E21
E9 TO E10 TO E11 TO E6
ALL CHIPS INSTALLED

Commutation 186/03A
Address switch setting:
1 closed
2 closed
3 open
4 thru 8 closed

U1:
1 to 18
2 to 17
3 to 16
4 to 15
5 to 14
6 to 13
7 to 12
8 to 11
9 to 10

E31 TO E32
E35 TO E36

U3 & U4 RP3 OUT

RP2 REVERSED

E51 TO E52
E1 TO E11, E13, E14, E15
E2 TO E12
E5 TO E6
E7 TO E17
E20 TO E30
E24 TO E25
E16 TO E26
E28 TO E29
E54 TO E55
E118 TO E119
E194 TO E196
E198 TO E199
E200 TO E201
E202 TO E203
E207 TO E208

PROMS IN U41 AND U74

E236 TO E237
E131 TO E138
E135 TO E136
E137 TO E145
E142 TO E143
E63 TO E78
E65 TO E80
E66 TO E81
E67 TO E82
E69 TO E75
E73 TO E76
E98 TO E108
E102 TO E112
E171 TO E172
E175 TO E177
E179 TO E180
E181 TO E183
E184 TO E185
E188 TO E189
E191 TO E193
E211 TO E212
E216 TO E217
E218 TO E219 & E221

Micro Memory Model MM7200 512K
SWITCH 1
1 is closed
2 thru 8 is open

switch 2 low
all open

switch 3 high
1 thru 5 closed
6 thru 8 open

switch 4
all open

switch 5
1 thru 3 closed
4 thru 8 open

S0 to S1
20 to 21
23 to 24
10 to 11
29 to 32
34 to 35
39 to 43
46 to 49
50 to 51

Control section 186/03
U1:
1 to 18
2 to 17
3 to 16
4 to 15
5 to 14
6 to 13
7 to 12
8 to 11
9 to 10

E31 TO E32
E35 TO E36

U3 & U4 RP3 OUT

RP2 REVERSED

44 to 45
51 to52
1 to 11,13,14
2 to 12
5 to 6
7 to 17
16 to 26
20 to 30
24 to 25
28 to 29
54 to 55
188 to119
165 to 166
194 to 196
198 to 199
207 to 208
240 to 241
163 to 164
131 to 138
135 to 136
137 to 145
142 to 143
149 to 157
150 to 151
159 to 160
236 to 237 perm
63 to 78
65 to 80
66 to 81
67 to 82
68 to75
73 to 76
98 to 108
102 to 112
103 to 113
104 to 114
171 to 172
175 to 177
179 to180
181 to 183
184 to 185
188 to 189
191 to 193
211 to 212

216 to 217
218 to 219
220 to 221

Proms installed in U41, 74,
Memory installed in U42,43, 75,76

Mulitbus to Datacon Master Interface Board
5V to E1, E3, E4
E2 to E8
U6 prom installed MBDAT6V
U46
1, 2,4,5 closed
3,6,7,8 open

U51
1 thru 8 open

U55
1,2,3,5,7,8 open
4,6 closed

TIMING MODULE DURATION MEMORY
E11 TO 10
E6 TO E7, & E8
PLD 86 INSTALLED IN U15
PLD 84 INSTALLED IN U13
PLD 116 INSTALLED IN U17 note this is a address make sure it is installed
PLD 85 INSTALLED IN U14
PLD INSTALLED IN U24

Booster Multi-Bus Decoder/Receiver D36-E362-5
Rev E

SW1
2 open
1,3,4,5,6,7,8 closed

100 ohm installed between E3 & E4

PLD1-U2
PLD2-U3
PLD1-U4
PLD2-U5
PLD3-U20
PLD4-U21

PLD6-U45
PLD5-U46
PLD5-U34
PLD6-U53
PLD?-U44
PLD?-U27
PLD?-U24
PLD?-U32

JP17 installed
JP16 installed
JP26 installed
JP22 installed
JP4 installed
JP5 installed
JP20 installed
JP6 installed
JP7 installed
JP21 installed

JP3 2-3
JP2 2-3
JP28 2-3

JP8 1 to U29-2
JP9-1 to U29-6
E6 to E5 to E7 to E8 to E12
P2-15 to U10-2
P2-16 to U10-3
P2-1 to U25-2
P2-2 to U25-3
P2-3 to U25-6
P2-4 to U25-5
P2-5 to U25-10
P2-6 to U25-11
P2-7 to U25-14
P2-8 to U25-13
P2-9 to U26-2
P2-10 to U26-3

Test chassis for the Multibus Datacon Quad Driver D32-E196

The CDC.TEST.TUNE_CHROM chassis also known as the Func_gen_tester and vector funcgen multibus chassis is set up to be able to test Multibus Datacon Quad Driver cards. For all four outputs, all inputs to the card are wired in parallel so in order to check the outputs you must remove the transistors in the untested channels to make a valid test of the channel you are trying to test. There is four Datacon output BNC connectors on the back panel marked A,B,C,D A=channel 1, B=channel 2, C=channel 3, D=channel 4.
On the top of the card is the first channel and it follows in order to channel four near the card edge connector on the bottom. The received datacon signal can be seen on U5 (7425) on pins 6 and pin 8. The positive datacon signal is on one and the negative half is on the other but with a scope they are both positive TTL logic signals.
The test can be performed with a extender card on the Quad Driver board.